

	1874.	Satel- lite.	Pheno- menon.	Obser- ver.	Instru- ment.	Toulouse M.T.			Mean Time from N.A.			Corr. to N.A.	
						h	m	s	h	m	s	m	s
Mar.	23	I.	Reapp.	P	B	15	58	5.7	15	52	35.0	-0	18.9
	23	II.	,,	T	A	16	9	25.4	16	3	51.8	-0	16.0
	23	II.	,,	P	B	16	9	35.7	16	3	51.8	-0	5.7
April	1	I.	,,	T	A	12	20	42.2	12	14	54.5	-0	1.9

The observations were made by M. Tisserand, and by M. Perrotin, *Aide-astronome*, whose names are referred to under the initials T and P. The aperture of the telescope employed by M. Tisserand is 11 centimètres, and of that used by M. Perrotin 15 centimètres. The longitude of the Observatory of Toulouse has been assumed to be 5^m 49^s.6 East of Greenwich. The observations marked with an asterisk were made through clouds.

Naked-eye Observation of Jupiter's Satellites.

By W. F. Denning, F.R.M.S., F.M.S.

(Communicated by the Rev. T. W. Webb, M.A., F.R.A.S.)

It may be worth recording that on the night of April 3, at about 10^h I unmistakably saw Sat. III. and IV. of *Jupiter* with the naked eye. On the occasion referred to, these satellites were particularly well placed for such an observation, being near their greatest elongations (West) from their primary. They were seen steadily and separately several times. I also observed them in the finder (power 5) of my 10¼-inch reflector and in an ordinary opera-glass (power 3); and from the remarkable ease with which they were visible, I was not surprised that unaided vision sufficed to reveal them, though previously I had been sceptical on the point, knowing it to be a disputed, albeit a well-attested one.

My first attempts to discern the satellites were unsuccessful, owing to my having taken insufficient care to cut off the planet's marginal rays, but, having accomplished this, they became perceptible. At the time, the moon was only two days past the full, but quite hidden by a bank of cumulus cloud low down in S.E. Additional weight may be attached to this observation, if I add that on several dark nights during the past winter, I distinguished 13 stars in the Pleiades, and have occasionally seen *Jupiter* in full sunshine (see *Monthly Notices*, vol. xxxiii. p. 179).

In concluding this brief paper, I may just refer to the extraordinary variations in the apparent brightness of *Jupiter's* fourth satellite. I have sometimes seen it faint and ill-defined in my 10¼-inch reflector, and in smaller instruments it has been a very dim object indeed. On March 28, 1873, it was *barely visible at all* to Mr. H. C. Key, using 3 inches of aperture and power 140;

while, on the following evening, it appeared to have regained its ordinary degree of brightness (see *English Mechanic*, vol. xvii. p. 62). In fact, this satellite, though occasionally within the range of the unassisted eye, is also at times so extremely faint as to be hardly perceptible with considerable telescopic power; and there seems little doubt, therefore, that the reflective properties of its surface are very unequally distributed, and that these inequalities become strikingly manifest in certain parts of the satellite's orbit,

Cotham Park, Bristol,
1874, April 7.

On the Appearance of Round Bright Spots on Jupiter.
By W. Lassell, Esq.

(Extract from a Letter to Mr. Dunkin.)

On directing the telescope to *Jupiter* about 11 P.M. on the 23rd ult., several round bright spots almost immediately caught my eye, situated in the principal southern belt, exactly as I first saw them on March 27, 1850, of which a short description and diagram are given in Vol. x. of the *Monthly Notices*, p. 134. The atmosphere is rarely so favourable here as it was on March 23, yet I did not see the phenomena nearly so sharply as on the former occasion I refer to. I believe the appearance of these spots is very rare, as I have not seen them for many years, and the general similarity of the aspect of the planet now and then, suggests the idea that the various phases return in cycles, which I think more probable than that absolute secular changes occur in the heavenly bodies within the limit of time of any human records. I could not obtain any distinct impression of colour on the face of the planet.

Ray Lodge, Maidenhead,
1874, April 8.

The Trustees for the Johnson Memorial Prize at Oxford have proposed for the subject of the next Essay: *On the Present State of our Knowledge of the Physical Constitution and Probable Origin of Comets.*

The Essays are to be sent to the Vice-Chancellor on or before March 31, 1875.